

# Grammar and Tone in South East Asian Languages

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## 1. Introduction

### 1.1. Clarification of terminology used.

1.1.0. It is proposed in this paper to draw attention to some of the ways in which tone is exploited for grammatical, as opposed to lexical, purposes in certain languages of South East Asia. It is first necessary, however, to clarify some of the terms used. I shall be using 'tone' as a phonological rather than a phonetic term, and shall reserve 'pitch' as a phonetic term in describing the realization of tones. It is important to recognize that pitch is frequently only one of the phonetic exponents of 'tone' as a phonological category. To regard tones as a matter of pitch differences alone is, of course, an over-simplification of the case. A phonological tone is in our area very frequently a complex of other features besides pitch—such as intensity, duration, voice quality, final glottal constriction and so on. It is, moreover, often correlated with the phonematic units, that is to say, with the syllable-final consonant, or the syllable initial consonant, or even in some cases with the vowel. It is for this reason that I am a little wary of using the word 'toneme', since the realizations of a toneme appear often to be thought of in terms of pitch alone; there is perhaps a misleading parallelism here between phoneme: phone, and toneme: tone. I prefer myself to take as my phonological unit the whole complex of features including pitch. If this is to the reader an acceptable interpretation of the term 'toneme', then 'toneme' may be equated with what I have here called 'tone'.

1.1.1. Transcription used. The Thai, Songkhla, Karen, Cantonese and Chin examples cited in this paper are presented in a phonetic transcription which uses symbols and conventions recommended by the International Phonetic Association. The Vietnamese examples are presented in the accepted Vietnamese roman orthography, which regularly indicates tone, and is thus adequate for the purposes of this paper. The Classical Chinese forms cited are transcribed according to the system used by B. Karlgren for Ancient Chinese in his *Grammata Serica Recensa*.<sup>1</sup>

### 1.2. Different types of pitch behaviour.

A common fallacy among non-linguists is that languages may be sharply divided into tone languages and non-tone languages—that there is a clearly defined dividing line between the two. But all languages use pitch differences for contrastive purposes at some level; it is a matter of degree rather than kind. We are, however, accustomed to divide languages into those which use pitch to characterize lexical units (words) and those which only use pitch to characterize stretches of speech longer than words. The first type of pitch behaviour we commonly call 'tone', the second 'intonation'.

There is a third type of pitch behaviour in which pitch contrasts play a grammatical rôle, in much the same way

as vowel or consonant alternations in some languages, and it is upon this that I wish to focus attention here. By definition, the tone languages of South East and East Asia exploit pitch variation for lexical purposes. Most, if not all, of them also make use of pitch contrasts over longer stretches of speech. Some of them also use pitch to make grammatical contrasts. A distinction must be drawn here between 'tone sandhi', which is phonetically determined, and the tonal behaviour under discussion here, which is grammatically determined. There are, however, borderline cases when the solution chosen will depend upon the theory that one works with.

## 2. The tonal morphology of Chin verbs

One of the most straightforward examples of what we may call tonal morphology in South East Asia is found in the verbal forms of certain Tibeto-Burman languages of the Chin group on the India-Burma frontier. I shall choose my illustrations from the northern Chin dialect spoken in and around Tiddim in the Northern Chin hills, but the feature described is common to other Chin dialects, e.g. Sizang in the north, and Laizo, Tashon and Lushai further south. In the dialect under investigation only two alternating forms were found, but three have been reported for other dialects in the area.

### 2.1. The tonal system of Tiddim Chin.

The tonal system of Tiddim Chin is as follows:—

All syllables containing a long vowel or diphthong and all syllables with a short vowel followed by a sonant (either a nasal or liquid) are pronounced with one of three pitch contours, which are interpreted as the realizations of three tones. These tones may be numbered 1, 2 and 3, as below:—

Tone number:	Realization:	Examples:
1	rising pitch	˩nei 'tail'; ˩ga:k 'wait'; ˩an 'food'; ˩kuan 'to work'.
2	mid level pitch	˩ni: 'sun, day'; ˩a:k 'fowl'; ˩gan 'animal'; ˩gu:l 'snake'.
3	falling pitch	˩tu:i 'egg'; ˩na:k 'nose'; ˩kum 'year'; ˩ge:n 'to ask for'.

Short syllables closed by stops, i.e. by -p, -t, -k or -ʔ, are usually pronounced with a low level pitch, but may occasionally be pronounced with a high level pitch, as illustrated below:—

Realization:	Examples:
low level pitch	˩mit 'eye'; ˩guʔ 'bone'; ˩kulʔ 'wall, fort'.
high level pitch	˩hak 'with difficulty'; ˩laʔ 'lightly, delfty'.

<sup>1</sup> Karlgren, B., *Grammata Serica Recensa*, Stockholm 1957.

Whether we regard these pitch patterns as being the realizations of further tones, which might be labelled 4 and 5, or as the realizations under special phonological conditions of one or other of the three tones already referred to, depends, as we shall attempt to show later, upon our theoretical premises,—upon the value, if any, which we attach to similarity of phonetic substance in the identification of phonological units, and upon the degree to which our theory permits us to take account of grammatical considerations in phonological analysis.

## 2.2. Formal alternation of Tiddim Chin verbs.

2.2.0. In Tiddim Chin we find that each verb has two forms, according to the grammatical structure in which it occurs. These may be labelled simply Form I and Form II, or 'indicative' and 'subjunctive', if one prefers. The two alternating forms may differ as to tone, vowel quantity, final consonant, and, to a more limited extent, as to vowel quality also. We are concerned here in the main with tonal alternation only.

2.2.1. Verbs with rising or mid level pitch in Form I. How tonal alternation operates in verbs with rising and mid level pitch in Form I can be seen from the examples given below:—

(Note that no tone is indicated for short unstressed syllables, the pitch of which is not contrastive.)

Form I	Form II
(a) kã /kuan /hi: 'I go to work'	kã /kuan /ciay -in 'When I go to work,....'
(b) ă /nɛ: u /li: 'It is small'	ă /nɛ: u /lɛ? 'If it is small,....'
(c) ă -na: k /hi: 'He is breathing'	ă -na: k /lɛ? 'If he is breathing,....'
(d) ă -nin /sa: /hi: 'It is cooked (already)'	ă -nin /sa: /ciay -in 'When it is cooked,....'

From examples such as the above and many others like them, one sees that Form II can regularly be predicted from Form I, and one can state the following rule:—In verbs whose Form I has a rising or mid level pitch, Form II will have a falling pitch, i.e. Tones 1 and 2 alternate with Tone 3.

## 2.2.2. Verbs with falling pitch in Form I.

2.2.2.0. In verbs whose Form I already has a falling tone we have two patterns. We find that in verbs with long vowels followed by a stop consonant there is no change:—

Form I	Form II
(a) ɔa: p 'to entrust'	ɔa: p
(b) ɔɛ: k 'to outweigh'	ɔɛ: k, etc.

i.e. Tone 3 'alternates' with Tone 3.

If, however, Form I ends in a sonant, we find that, whether the vowel is long or short, Form II will have a short vowel, a final stop corresponding to the sonant, and a low level pitch, e.g.:—

Form I	Form II
(c) ɔman 'to cost'	-mat
(d) ɔye: n 'to ask for'	-ɛt
(e) ɔla: n 'to lift up'	-lap
(f) ɔam 'to be perplexed'	-ap
(g) ɔkal 'to rake'	-kal?
(h) ɔka: i 'to drag'	-kai?
(j) ɔlou 'not to be'	-lou?
(k) ɔhi: 'to be'	-hi?, etc.

2.2.2.1. Interpretation and statement of such forms. It is here that certain differences of interpretation may arise. Those who wish to treat syllables on a low pitch as having a different 'tone' from those with falling, rising or mid level pitches will have to posit a different set of tonal alternation rules for these verbs. I myself prefer to regard the falling and low level pitches as both being realizations of a single tone, which I have here labelled 'Tone 3', so that one may make the following general statement:—

In open syllables with a long vowel or a diphthong, and in all closed syllables with a long vowel, and in short syllables closed by a sonant, the realization of Tone 3 is falling pitch, e.g. ɔtu: i 'egg', ɔɛ: n 'ask for', ɔna: k 'nose', ɔkum 'year', ɔkal 'to rake' (Form I).

In syllables with a short vowel closed by a stop (including -ʔ), the realization of Tone 3 is a low level pitch, e.g. ɔmit 'eye', ɔgu? 'bone', ɔkul? 'wall, fort', ɔkal? 'to rake' (Form II).

This enables us to apply to examples (c) to (k) in 2.2.2. above the same tonal alternation rules as for verbs of other structures, i.e. in regular verbs Form II always has Tone 3, but there are in verbs of this particular phonological structure additional features of vowel shortness and consonant change which distinguish Form II from Form I, and which at the same time entail a particular realization of the tone. This interpretation, it may be added in passing, agrees with that of Chins themselves, who identify the tones from their end-points, i.e. rising = 'high', mid level = 'mid', falling = 'low', and who use this interpretation in whistle speech.

It should be noted that if the Form I of a verb is already short and closed by a stop, there is no change in Form II, e.g.:—

Form I	Form II
(a) ɔval? 'to swallow'	-val?
(b) ɔba? 'to be tired'	-ba?
(c) ɔtak 'to be right'	-tak
(d) ɔxai? 'to filter'	-xai?
(e) ɔgat 'to face downwards'	-gat

According to one's general interpretation of syllables of this structure, the verbal morphology of forms (a) to (e) above will be regarded *either* as 'alternation' of Tone 3 with Tone 3, *or* of Tone 4 with Tone 4. The first interpretation, which is the one I prefer, brings these forms into line with verbs with a long vowel followed by a stop consonant, as described in 2.2.2.

## 2.3. Verbal derivation by tonal progression.

2.3.0. Before we leave the Chin verb there is a further interesting feature to note, a form of verbal derivation whereby the Form II of one verb may become the Form I of another verb, frequently standing in some sort of causative or benefactive relation to it. We thus find such related pairs of verbs as the following:—

(a) ɔdim, ɔdim 'to be full';	ɔdim, ɔdip 'to fill'.
(b) ɔlam, ɔlam 'to earn (for oneself)';	ɔlam, ɔlap 'to earn (for someone else, e.g. one's family)'.
(c) -ta: ɔ, ɔta: n <sup>2</sup> 'to be bright';	ɔta: n, ɔtat 'to flash a light at'.

<sup>2</sup> The alternation of final -ɔ and -n in this context is quite regular, and need not detain us here.

- |     |                        |                             |
|-----|------------------------|-----------------------------|
| (d) | ˈla:m, \la:m           | \la:m, ˈlap                 |
|     | 'to dance';            | 'to perform a certain cere- |
|     |                        | monial dance'.              |
| (e) | ˈnam, \nam             | \nam, ˈnap                  |
|     | 'to smell (intrans.)'; | 'to smell (trans.)'.        |

Of particular interest is the one triple series found, in which there are three stages in the progression:—

- (f) /na:i, \na:i  
 'to be near'  
 \na:i, \_nai?  
 'to draw near (intrans.)'  
 \_nai?, \_nai?  
 'to draw someone near (trans.)'

**2.3.1. Irregular derivation.** In all the examples cited in 2.3. above, including example (f), the tonal progression is quite regular in conforming to the rules we have already laid down. Occasionally, however, one comes across cases where the derivative process does not conform to the regular pattern, as in examples (a) and (b) below, where according to the rules we should expect *\_dat* and *\_dap* respectively for the Form II of the derived verb:—

- |     |                        |                     |
|-----|------------------------|---------------------|
| (a) | /daɹ, \dan             | \dan, \dan          |
|     | 'to be different';     | 'to differentiate'. |
| (b) | -daun, \dam            | \daun, \dam         |
|     | 'to be well, healthy'; | 'to heal'.          |

It thus comes about that distinctions between sentences such as the following occur:—

- (c) ă ɳdam ɳhi: 'It has healed'.  
 (d) ă ɳdam ɳhi: 'He healed (him)'.

2.3.2. Comparison with Chinese. Similar verbal processes appear to have existed in Classical Chinese.<sup>3</sup> Compare:—

- |     |                                   |               |                                 |                         |
|-----|-----------------------------------|---------------|---------------------------------|-------------------------|
| (a) | o <sup>o</sup> mai                | 'to buy';     | mai <sup>o</sup>                | 'to sell'.              |
| (b) | o <sup>o</sup> d <sup>h</sup> iəm | 'to sink';    | d <sup>h</sup> iəm <sup>o</sup> | 'to drown,<br>immerse'. |
| (c) | o <sup>o</sup> g <sup>h</sup> iən | 'to be near'; | g <sup>h</sup> iən <sup>o</sup> | 'to approach'.          |
| (d) | o <sup>o</sup> ziən               | 'to receive'; | ziən <sup>o</sup>               | 'to give'.              |

### 3. *Tone and nominal forms in Chin*

### 3.1. Nominalization of verbs.

3.1.0. Let us now turn to a further exploitation of tonal variation for grammatical purposes, namely, for the nominalization of verbs. Chin makes quite extensive use of this, nominal forms being commonly derived from the Form II of the relevant verb, e.g.:—<sup>4</sup>

- |     |  |                        |
|-----|--|------------------------|
| (a) | -na: k <sup>I</sup> , \na: k <sup>II</sup> | 'to breathe';          |
|     | \na: k                                     | 'nose'.                |
|     | -la: m <sup>I</sup> , \la: m <sup>II</sup> | 'to dance';            |
|     | \la: m                                     | 'a dance'.             |
|     | zũ\nuŋ <sup>I</sup> , zũ\nuŋ <sup>II</sup> | 'to feast';            |
|     | zũ\nuŋ                                     | 'a feast'.             |
|     | -maŋ <sup>I</sup> , -maŋ <sup>II</sup>     | 'to capture';          |
|     | -maŋ                                       | 'captive', 'prisoner'. |

<sup>3</sup> These and many other examples are to be found in *Downer, G.B.*, Derivation by tone-change in Classical Chinese. "Bulletin of the School of Oriental and African Studies", Vol. 22, Part 2, London 1959. All Classical Chinese examples cited in this paper are from the same source.

<sup>4</sup> In these and subsequent examples the forms of the verb are indicated by raised roman numerals.

- |   |  |
|---|--|
| -sam <sup>I</sup> , \sam <sup>II</sup><br>/sam                            | 'to incant';<br>'incantation'.   |
| (b) /xou\xia <sup>I</sup> , -xoʔ/xiat <sup>II</sup><br>'to weed out';     | ǎ -xoʔ/xiat<br>'That which is weeded<br>out'.                            |
| (c) kǎ /huan <sup>I</sup> /sa : \hi :<br>'I have cooked (it)<br>already'; | ǎ kǎ \huan <sup>II</sup> /sa :<br>'The (food) I have<br>cooked already'. |

3.1.1. *Comparison with Classical Chinese and modern Cantonese.* It should be noted that a similar tonal relationship between verbs and nouns is reconstructed for older forms of Chinese. A few examples are given below:—

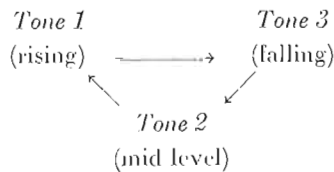
- |     |        |               |        |                    |
|-----|--------|---------------|--------|--------------------|
| (a) | okàu   | 'to be high'; | kâu°   | 'height'.          |
| (b) | okam   | 'to oversee'; | kam°   | 'overseer'.        |
| (c) | okwàng | 'to be wide'; | kwàng° | 'width'.           |
| (d) | otàm   | 'to carry';   | tàm°   | 'burden,<br>load'. |

It is also reported for modern Cantonese:—<sup>5</sup>

- |           |             |       |             |
|-----------|-------------|-------|-------------|
| (e) \sə   | 'to comb';  | ˈsə   | 'comb'.     |
| (f) \tsʰɛ | 'to drive'; | ˈtsʰɛ | 'vehicle'.  |
| (g) ˌwa   | 'to speak'; | ˈwa   | 'language'. |

### 3.2. Tonal morphology of nouns in Chin.

3.2.0. To return to Tiddim Chin, there is in this language, alongside the tonal morphology of verbs, a separate system of tonal variation for nouns. There are for nouns two alternating forms which may be regarded as a rudimentary case system. These forms are mutually predictable, as contrasted with verbal forms, in which Form II is predictable from Form I but not vice versa. I shall refer to the two noun forms, therefore, not as I and II, but as 'direct' and 'oblique'. The tonal relationship between the direct and oblique forms of the noun is illustrated by the following diagram in which it will be seen the tones 'chase' each other round the triangle, a direct Tone 1 implying an oblique Tone 3, a direct Tone 3 implying an oblique Tone 2, and a direct Tone 2 implying an oblique Tone 1, e.g. :=-



### 3.2.1. Use of the oblique form of the noun.

3.2.1.0. The oblique form of nouns is used in what may be regarded as genitival constructions, before certain suffixes, and sometimes, possibly, to express a semantic relationship between the two forms.

3.2.1.1. In genitival constructions. The following examples show how the oblique form is used in genitival constructions:—

- |   |  |
|---|--|
| (a) \ha:uŋgou<br>'Haugu (a name)';              | <i>but</i> \ha:uŋ-gou /ʔwi:<br>'Haugo's dog'.          |
| (b) \vul zǎ-thay<br>'Vul Za Thang<br>(a name)'; | <i>but</i> \vul zǎ/thay /ʔwi:<br>'Vul Za Thaug's dog'. |

<sup>5</sup> These and other Cantonese examples were supplied by my colleagues *K.P.K. Whitaker* and *G.B. Downer*. The transcription is a general phonetic one.

- (c) -ga:l /tɛ: but -ga:l \tɛ:-xuaŋ  
 'The enemies'; 'The enemies' drum'.  
 (d) -daʔ\pa: but -daʔ\pa:-xuaŋ  
 'Dahpa (a name)'; 'Dahpa's drum'.  
 (e) /kei\maʔ kã\pai \hi: but /kei\ma: ǎ\hi: \hi:  
 'I (emphatic) went'; 'It is mine'.

Note that example (e) supports the phonological interpretation preferred earlier in relation to verbs, namely that the low level pitch of short syllables ending in a stop is to be regarded as the realization of Tone 3, not as a separate tone.

There is, I believe a very similar usage in Burmese about which my colleague Mrs. Allott has something to say in her paper to this Colloquium.<sup>6</sup>

3.2.1.2. Before certain suffixes. In Tiddim Chin the oblique form of the noun is obligatory before certain post-nominal suffixes, as, for example, the masculine and feminine suffixes /pa: and /nu:, but not before others, such as the pluralizing suffix /tɛ:. Compare the following:-

Noun <sup>d</sup> :	Noun <sup>d</sup> + suffix:	Noun <sup>o</sup> + suffix:
(a) -u: 'older brother or sister'		/u:/pa: 'older brother'; /u:/nu: 'older sister'.
(b) -ga:l 'war, enemy'	-ga:l/tɛ: 'enemies'	/ga:l/pa: 'the enemy'.

If a nominal form with a post-nominal suffix enters into a construction which requires the oblique case, the suffix is varied tonally in the same way as the last syllable of nouns, e.g.:—

-ga:l <sup>d</sup> \tɛ:° -xuaŋ <sup>d</sup>	but	/ga:l°\pa:° -xuaŋ <sup>d</sup>
'the enemies' drum'		'the enemy's drum'

In '-ga:l/tɛ:-xuaŋ', '-ga:l' is the direct form of the noun, '\tɛ:' the oblique form of the suffix; while in '/ga:l\pa:-xuaŋ' both '/ga:l' and '\pa:' are oblique forms, the first by reason of its grammatical relationship with '/pa:', and the latter by reason of the grammatical relationship between the complex nominal form '/ga:l\pa:' with the following noun '-xuaŋ'.

3.2.1.3. To express differences in semantic content. It is possible that tonal variation is sometimes used to express a difference in semantic content between nominal forms which have to be treated as separate lexical items in any English translation, e.g.:—

\za:n <sup>d</sup> 'night';	-za:n° 'yesterday'.
/tu: <sup>d</sup> 'now';	-ni: <sup>d</sup> 'day';
	\tu:° /ni:° 'today'.

#### 4. Tonal variation and compounding

What one may call the morphological use of tone in Chin as a mark of grammatical categories of 'mood' and 'case' in verbs and nouns respectively is on the whole exceptional in the S.E. Asian and E. Asian areas. Tonal variation as a means of compounding, in both verbal and nominal constructions, is much more widespread. Burmese is a case in point, but here I shall once again leave it to

my colleague Mrs. Allott to describe this feature.<sup>8</sup> Extensive use of the so-called 'modified tones' in a variety of nominal compounds has been reported for Cantonese in a comprehensive study by Dr K. P. K. Whitaker.<sup>9</sup>

##### 4.1. In Vietnamese

A very limited use is made of tonal variation in Vietnamese, as in certain compound numeral expressions, e.g.:—

mù'o'i '10';	một '1';	hai '2';
mù'o'i một '11';	mù'o'i hai '12';	
hai mù'o'i '20';	hai mù'o'i một '21'.	

##### 4.2. In Chin

In Chin we sometimes find the oblique form of the noun used as a compounding form, e.g.:—

/mi: <sup>d</sup> 'person';	-hiy <sup>I</sup> , \hin <sup>II</sup> 'to be alive';
\mi:° -hiy <sup>I</sup> 'human being'.	

Note that the verbal element in this compound is in Form I. This appears to be the regular usage when the verbal constituents of such compounds refer to what may be called the 'permanent' or 'abiding' state of the object referred to by the noun element, and may be contrasted with the use of Form II of the verb in the nominalized and attributive expressions already discussed.

##### 4.3. In Bangkok Thai

The position in Bangkok Thai is less clear-cut and raises special theoretical problems. That certain grammatical constructions are regularly correlated with particular realizations of tones is clear, but since there appear always to be accompanying stress and rhythm characteristics, it is a question of which particular set of features one takes to be grammatically relevant. Compare, for example, the following common words and expressions with the isolated forms of which they are compounded:—

- (a) /thi/nai (🎵) < \thi: + /nai  
 'where?' 'place' 'which?'  
 (b) /naŋ/su: (🎵) < /naŋ + /su:  
 'book' 'skin, parchment' (?)  
 (c) /khaui\cai (🎵) < \khaui + \cai  
 'understand' 'enter' 'heart'  
 (d) -tham /hai -di: (🎵) < -tham + \hai + -di:  
 'Do it well' 'do' 'give' 'good'

If one takes the stress relationship between the first and second elements of such firmly established compounds as the words for 'book', 'understand', 'where', etc. to be the grammatically relevant factor, then the accompanying pitch features of the weakly stressed syllables may be regarded as a kind of tone sandhi, and as such lie outside the scope of this paper. This appears to be the most sensible solution in cases of this kind, of which there are a great many in Bangkok Thai.

<sup>8</sup> See p. 159 in this volume.

<sup>9</sup> See Whitaker, K. P. K., *A Study of the Modified Tones of Spoken Cantonese I. "Asia Major"*, New Series, Vol. 5, Part 1, 1955, and *A Study in the Modified Tones of Spoken Cantonese II. "Asia Major"*, New Series, Vol. 5, Part 2, 1956.

<sup>6</sup> See pp. 157-161 of this volume.

<sup>7</sup> In the examples cited, a small raised <sup>d</sup> is used to indicate the direct form, a small raised ° the oblique form.

#### 4.4. In Songkhla

In the Southern Thai dialect of Songkhla the position seems to resemble rather more closely that of Cantonese, in which a specific tonal variant may be the only appropriate realization in a number of fairly clearly defined grammatical contexts. There are in Songkhla nine distinctive pitch patterns, seven of which are quite clearly lexically contrastive, e.g. (1) high rising, (2) (gradual) high falling, (3) mid level, (4) low rising, (5) (gradual) mid falling, (6) low level, (7) low falling. The two remaining patterns, (8) rapid high falling, (9) rapid mid falling, may be regarded as realizations of certain of the other seven in given grammatical constructions. They might conceivably, however, be regarded as two separate tones, restricted to certain constructions and, indeed, important grammatical elements of such constructions. This latter kind of interpretation is more attractive in Songkhla than in Bangkok Thai, partly because the correlations with certain grammatical constructions appear firmer and more stable, and partly because there is a less obvious phonetic link between 'basic' and 'derived' patterns. The rapid mid falling 'tone' (No. 9), for example, replaces the gradual mid-falling and low rising tones Nos. 4 and 5; the rapid high falling 'tone', No. 8, replaces the high rising tone, No. 1. Some idea of the contexts in which these 'modified tones' or 'special realizations' occur can be gathered from the examples below:—

- (a) khon<sup>5</sup> kha: i<sup>3</sup> ɔi<sup>3</sup> (●●●) khon<sup>5</sup> kha: i<sup>8</sup> ɔi<sup>3</sup> (●●●)  
'The man is selling' 'The sugarcane seller'.  
sugarcane';
- (b) suə<sup>2</sup> si: t<sup>2</sup> sɛ: t<sup>2</sup> (●●●) suə<sup>2</sup> si: ɔ sɛ: t<sup>2</sup> (●●●)  
'The blouse is orange'; 'An orange blouse'.
- (c) phit<sup>1</sup> muə<sup>1</sup> kan<sup>1</sup> (●●●) phit<sup>1</sup> muə<sup>8</sup> kan<sup>4</sup> (●●●)  
'They're both wrong'; 'He's also wrong'.

There are, however, as in Bangkok Thai, subtle differences of rhythm and stress at play here too, which would, despite the great differences in pitch contour, justify the phonological interpretation of the so-called 'tones' 8 and 9 as simply conditioned realizations of tones 1, 4 and 5.

#### 4.5. In Bwe Karen

In Bwe, a central Karen dialect which has three tones—high level, mid level, low level,—we come across an interesting use of tonal variation in compounding which may be referred to as *tonal dissimilation*, since in the formation of compounds there appears to be a deliberate variation of the tones of the elements as isolates, particularly when these have the same tone. Tonal variation thus appears to be used as a means of welding the elements together in a single 'word'. We thus find:—<sup>10</sup>

- (a) -dɔ 'to speak'; but -dɔ-fa 'to tell'.  
(b) -la 'to descend'; but -la-de 'to fall'.  
(c) -ca 'to see'; but -ca-le 'to search'.  
(d) -de 'year'; but -de-he 'last year'.  
(e) bə-ya 'man', -chi 'water';  
but bə-ya-chi 'spittle'.

<sup>10</sup> The notation of the Bwe Tones is as follows:—high level [ˉa], mid level [ˊa], low level [ˋa]. Short unstressed syllables are not marked as bearing tone, since pitch is not contrastive on such syllables.

- (f) -bu 'younger sibling', -jɛ 'tender', -pho 'young one'; but -bu-jɛ-pho 'child'.  
(g) -ni 'to obtain', -mɛ 'wife';  
but -ni-mɛ 'to marry'.

Note that when the constituent elements are separated again they revert to the appropriate isolative tone. We thus have jə-ni-mɛ-tho 'He's married already', but jə-ni-jɛ-mɛ-tho 'He's already got (taken) a wife'—two sentences with effectively the 'same meaning', but constructed differently.

#### 5. Tonal alternation in reduplicative expressions

A common feature of the area, of course, are reduplicative and repetitive expressions, in which tonal alternation is often present alongside other characteristics such as vowel alternation, alternation of the initial consonant, or alternation of the final consonant. I wish to draw attention today to reduplicative expressions in which the alternation is tonal only.

##### 5.1. In Vietnamese

Vietnamese has a number of reduplicative expressions in which there is tonal alternation only. These appear to have a fairly clearly defined general meaning, which is the opposite of intensification,—a sort of weakening or 'dilution' of the meaning of the corresponding non-reduplicated form, e.g.:—

- (a) ả'm 'warm'; ảm ả'm 'warmish'.  
(b) giố'ng 'to resemble'; giông giố'ng 'to resemble slightly'.  
(c) khá 'rather good'; kha khá 'only fairly good'.  
(d) trắ'ng 'white'; trắng trắ'ng 'whitish'.  
(e) đỏ 'red'; đỏ đỏ 'reddish'.  
(f) chậ'm 'slow, halting'; chấ'm chậ'm 'somewhat slow'.  
(g) dịn 'to be improved'; dịn dịn 'to be somewhat improved'.

It will be seen that grammatically speaking these are all the same kind of construction, but that there are two tonal alternation patterns, one which may be summarized as 'high level tone alternates with tone X', the other as 'low falling tone alternates with tone Y', since the pattern used depends upon the nature of the tone of the basic syllable. It would take too long to examine the rules here, but they are set out in some detail by Emeneau.<sup>11</sup>

##### 5.2. In Thai

Thai usage as regards reduplicative expressions with tonal alternation is rather different. The reduplicative forms with the 'diluting' function do not have tonal alternation, e.g.:—

- (a) -di: 'good'; -di: -di: 'fairly good'.  
(b) -reu 'quick'; -reu -reu 'fairly quick'.  
(c) -dam 'black'; -dam -dam 'blackish'.

<sup>11</sup> See Emeneau, M.B., *Studies in Vietnamese (Annamese) Grammar*. University of California Press, Berkeley and Los Angeles 1951, pp. 165–168.

For intensification on the other hand, Thai does make use of a sort of tonal alternation e.g.:—

- (d) -di: 'good'; ^di: -di: 'extremely good'.  
 (e) /wa:n 'sweet'; ^wa:n /wa:n 'extremely sweet'.  
 (f) /kha:u 'white'; ^kha:u /kha:u 'extremely white'.

These latter should perhaps be regarded as examples of emphatic intonation rather than tonal alternation, however, since the pitch contour of the first syllable of the reduplicated form is not precisely the same as that of the lexical tone it resembles.<sup>12</sup>

### 5.3. In Chinese

One may note that tonal alternation in reduplicative expressions appears to be used extensively in some Chinese dialects also, notably Cantonese. It is especially noteworthy that Cantonese uses reduplicative expressions with tonal modification both to intensify and to dilute, the rule being that if the first element of the repetitive form is tonally modified, the sense is 'rather, a little, fairly' whereas if it is the second element that is modified, the effect is of intensification, e.g.:—<sup>13</sup>

- (a) -pa:k -pa:k/pa:k(/tei) /pa:k-pa:k  
 'white'; 'whitish'; 'very white'.  
 (b) -hoy -hoy/hoy(/tei) /hoy-hoy  
 'red'; 'reddish'; 'very red'.  
 (c) -ts'oeŋ -ts'oeŋ/ts'oeŋ(/tei) /ts'oeŋ-ts'oeŋ  
 'long'; 'rather long'; 'very long'.

### 5.4. Absence of such alternation in Chin

It is interesting that Chin, which is extremely rich in reduplicated adverbial expressions and which makes such extensive use of tonal variation in other sections of the grammar, does not exploit tonal alternation in reduplicated constructions.

### 5.5. Prolific and varied use of such alternation in Bwe Karen

Bwe Karen makes great use in certain grammatical contexts, especially within verbal constructions, of reduplication combined with variations in pitch and quantity. These are not to be confused with tone sandhi, which is also a striking feature of this dialect. The grammatically determined pitch variation in fact frequently runs counter to the tone sandhi rules in force elsewhere, and is clearly the predominant feature of the two. Some but by no means all, of the constructions in which reduplication is coupled with tonal variation, with or without quantity variation, are shown in the examples below.

<sup>12</sup> See Chuenkongchoo, T., *The Prosodic Characteristics of Certain Particles in Spoken Thai* (unpublished London M.A. thesis, presented in 1956) and Haas, M.R., *Techniques of Intensifying in Thai*, "Word", 2, 1946.

<sup>13</sup> See Whitaker, *op. cit.*, pp. 30-32. One of the delegates to the Colloquium suggested that the Cantonese 'diluted' forms cited appear to be borrowed from Pekingese rather than true Cantonese. I have since had an opportunity of putting this suggestion to my Cantonese colleagues who reaffirm that these forms are genuinely Cantonese.

All these constructions would have to find a place in a grammar of the language, although the labels attached to them here are not to be taken too seriously,—they are merely there in order to give some generalized idea of the content.

### 5.5.1. Tonal variation in verbal constructions in Bwe Karen.

#### Continuative:

- (a) -klwε 'to write'; ^klwε:~klwε~i 'to go on writing'.  
 (b) -mu 'to shout'; ^mu:~mu~i 'to go on shouting'.  
 (c) -hɔ 'to scold'; ^hɔ:~hɔ~i 'to go on scolding'.

#### Intensified Comparative:

- (d) -bla 'to be clever'; ^bla:~bla 'to be much cleverer'.  
 (e) -do 'to be big'; ^do:~do 'to be much bigger'.  
 (f) gǎ-lε 'to be quick'; gǎ~lε: gǎ~lε 'to be much quicker'.

#### Culminative:

- [~mε 'do'; ~bε 'win'; ~a 'eat'; ~thɔ 'fight, hit']  
 (g) ~mε bε-bε 'Try until you succeed'.  
 (h) ~a bε-bε 'Eat to your heart's content'.  
 (i) ~thɔ bε-bε 'Fight to win'.

#### Augmentative:

- [~dɔ 'speak'; ~fu 'hard'; ~chi 'kick']  
 (k) ~dɔ fu-fu 'Speak louder'.  
 (l) ~chi fu-fu 'Kick harder'.

#### Intensifying:

- (m) ~thɔ fu fu-cε 'Hit him really hard!'  
 (n) ~dɔ gǎ-lε lε 'Say it quickly!'  
 (o) ~cwe-pwa pwa 'Run very fast!'

#### Causative:

- [~fu 'hard'; ~yε 'I, me'; ~nε 'you'; ~lo 'all']  
 (p) jǎ~thɔ yε<sup>14</sup> fu-fu; ... 'He hit me so hard, that ...'  
 (q) jǎ~thɔ fu yε yε; ... (ditto)  
 (r) cǎ i yε yε; ... 'He gave it to me, so ...'  
 (s) ~wɪ-θε nε nε; ... 'You like it, so ...'  
 (t) cǎ-cwe lo lo; ... 'They all ran away, so ...'

#### Comprehensive (number of objects unspecified):

- [~i 'give'; ~cε 'it, him, them'; ~lo 'all'; ~na-hε 'dismiss'; ~a 'eat']  
 (u) ~i-cε lo lo 'Give him all of them'.  
 (v) ~na-hε-cε lo lo 'Dismiss all of them'.  
 (w) ~a-cε lo lo 'Eat all of them'.

#### Comprehensive (number of objects specified):

- [~ki 'two'; ~yε 'five'; ~lu 'four'; ~bwe '(classifier for people)'; ~mε '(classifier for fruits, etc.)']

<sup>14</sup> The high pitch on 'yε' here is the result of tone sandhi.

- (x) ̄i-cɛ̄ ̄ki-mɛ̄ ̄lōlō 'Give him both of them'.  
 (y) ̄na-hɛ̄-cɛ̄ ̄yɛ̄-bwɛ̄ ̄lōlō 'Dismiss all five of them'.  
 (z) ̄a-cɛ̄ ̄lu-mɛ̄ ̄lōlō 'Eat all four of them'.

#### Emphatic Negative:

- [̄kt ('general classifier'); ̄bwɛ̄ ('cl. for people'); ̄bɔ̄ ('cl. for long objects'); ̄dɔ̄ ('cl. for animals'); ̄pla ('cl. for occasions')]  
 (α) ̄jɔ̄dɔ̄-lē ̄bwɛ̄: ̄bwɛ̄-nɔ̄ 'Not one of them is going'.  
 (β) ̄da-phō tɔ̄-ɔ̄ ̄bɔ̄: ̄bɔ̄ 'There's not a single fish'.  
 (γ) ̄yɔ̄tɔ̄-a-bɛ̄: ̄pla: ̄pla-nɔ̄ 'I haven't eaten it even once'.  
 (δ) ̄cɔ̄tɔ̄-cā-chī ̄bō tɔ̄-dɔ̄: 'He didn't see a single ox'.  
 (ε) ̄dɛ̄ dɔ̄-gō tɔ̄-kt: 'It isn't the least bit hot'.  
 tɔ̄ kt-nɔ̄

#### 6. A special use of tonal alternation in Southern Vietnamese

I wish here to draw the reader's attention briefly to a form of tonal alternation in certain terms of reference and address and in a few words indicative of location in Southern Vietnamese. The terms of reference and address affected are as follows:—

anh, anh; ba, bà; câu, cẩu; cha, chá; chị, chĩ;  
 cô, cồ; con, cón; dì, dỉ; dượng, dưỡn; mẹ, mế;  
 ông, ông; thẳng, thẳng; thầy, thảy; trò, trồ.

Words indicative of location:—

bên, bên; dăng, dăng; ngoài, ngoài; trên, trên;  
 trong, trong.

The following sentences give some indication of how this system works:—

- (a) Tôi có đến thăm ông mà ông không có ở nhà.  
 'I called on you but you weren't at home.'  
 (b) Tôi có đến thăm ông mà ông không có ở nhà.  
 'I called on him but he wasn't at home.'  
 (c) Tôi có đến thăm Ông Hai mà ông không có ở nhà.  
 'I called on Mr Hai but he wasn't at home.'  
 (d) Ra ngoài chơi.  
 'Go and play outside.'  
 (e) Biểu đi ra ngoài chơi, mà không đi.  
 'I told you to go and play outside, but you haven't gone yet.'  
 (f) Vô trong phòng chơi.  
 'Go and play in the room.'  
 (g) Ở trong tối hủ, không dám vô.  
 'It's very dark in there, I daren't go in.'  
 (h) Vô trong chơi.  
 'Go and play in there (like I told you).'

If one addresses a man face to face with the term 'ông', which is in this context roughly the equivalent of 'Monsieur' or 'Mein Herr', one uses the form with the basic tone, as in sentence (a) above. If, however, one wishes to refer respectfully to a third person not present, as in sentence (b), a rising tone is used. The use of this tone in such contexts is always anaphoric,—it refers *back* to a third person already mentioned or understood. In sentence (c) above, the basic tone is used when Mr Hai is

first mentioned, but after that he is referred to simply as 'ông', with the anaphoric rising tone. The same general rule applies to the location words, as can be seen from sentences (d) and (e) above, which might be spoken on two successive occasions by a mother to her child. Sentences (f), (g) and (h) might occur in a dialogue between mother and child: (f) the mother first uses the basic form, (g) the child then replies with the anaphoric form, and finally, (h), the mother repeats her first command, but this time with the anaphoric form.

If space permitted, a great deal more might be said about the linguistic and social implications of the use of this particular type of tonal alternation, which is peculiar to Southern Vietnamese.<sup>15</sup> The North Vietnamese will, instead of the anaphoric 'ông', use the basic 'ông' followed by the determinative 'ấy', meaning 'that'. There is thus correlation of Southern ông, cồ, etc. with Northern ông, ấ, etc.

#### 7. Problems of interpretation

##### 7.1. How many tones in Tiddim Chin?

7.1.0. Brief reference was made earlier in this paper to the question of the number of tones to be postulated for Tiddim Chin.<sup>16</sup> The problem centres upon the phonological interpretation of the high level and low level pitch patterns, examples of which are given below:—

- |                                      |   |
|--------------------------------------|---|
| (a) ̄dɛ̄? 'to sting';                | ̄dɛ̄? 'warning exclamation'.                          |
| (b) ̄hak 'to be awake';              | ̄hak 'with difficulty'.                               |
| (c) ̄kɛ̄? 'to leak';                 | ̄kɛ̄? 'If not (cp. /kei 'not' and /ɛ: or /ɛ̄? 'if')'. |
| (d) ̄la? 'to be incapable';          | ̄la? 'lightly, deftly'.                               |
| (e) ̄pak 'to be of loose character'; | ̄pak 'immediately'.                                   |
| (f) ̄thak 'to itch';                 | ̄thak 'to be new' (cp. Central Chin 'thar').          |

7.1.1. Suggested solutions. We have already seen that there are two possibilities as regards the low level pitch words,—they may be regarded as constituting a separate fourth tone, or, if we take account of the function of tonal alternation in Chin, we may be more inclined to regard them as phonologically conditioned variants of Tone 3, the 'falling' tone.<sup>17</sup>

The short closed syllables with a high level pitch present a somewhat different problem. They are in any case not very numerous, and the great majority of those we find are adverbs, which commonly occur at the end of verbal phrases. It is therefore possible to regard their high pitch in this environment as a realization of phrase

<sup>15</sup> For a more detailed discussion, (unfortunately containing a number of misprints), see Henderson, E. J. A., *Tonal Exponents of Pronominal Concord in Southern Vietnamese*, "Indian Linguistics", Vol. 22, 1961, pp. 86-97. See also a brief reference in Jones, R. B., and Huynh Sanh Thong, *Introduction to Spoken Vietnamese*, American Council of Learned Societies, Washington 1957, pp. 17-18, 120-123, and the discussion of 'subsyllabic morphemes' in Thompson, L. C., *The problem of the Word in Vietnamese*, "Word", 19, 1, 1963.

<sup>16</sup> See p. 171.

<sup>17</sup> See p. 172.

intonation superimposed upon word-tone. The instances of words of this type which are not adverbs turn out to be either exclamatory particles, as in example (a) above, or particles occurring at the end of subordinate clauses, as in example (c), and for both these types also it is perfectly feasible to ascribe the high pitch to intonation of the clause or phrase. There are thus three possible solutions here:—

*Solution 1.* Chin is a 3-tone language, high level and low level pitch being realizations in a given phonological environment of Tones 1 and 3, which are realized in other environments as rising or falling pitch respectively.

*Solution 2.* Chin is a 4-tone language, low level pitch being regarded as the realization of a fourth tone not to be identified with any of the other three, and high level pitch being merely a realization of phrase intonation superimposed upon a tone 4 syllable.

*Solution 3.* Chin is a 5-tone language, low level pitch and high level pitch being regarded as realizations of separate tones 4 and 5.

*7.1.2. Objection to Solution 2.* The example at (f) above introduces a further difficulty, however. ʔhak 'to be new', with a high level pitch, is not an adverb or a particle but a verb, exactly comparable grammatically with ʔhak 'to itch'. Intonation will not do as a solution in this instance, which was the only one of its kind that I found in the language, so that we must choose here between Solutions 1 and 3. It may be noted as a matter of interest that the explanation of the exceptional occurrence of ʔhak in Tiddim may be linked with the fact that in the Central Chin dialects the word for 'new' is ʔhar, with a final -r, the change of final -r to -k being quite regular in the Northern dialects.

## 7.2. One word or two in Southern Vietnamese?

A common problem in South East Asian languages, in which, by and large, words are invariable, is that of forms with identical phonological shapes but different grammatical functions,—homophones that may, for example, be 'verbs' in one context and 'nouns' in another. Is the grammarian to postulate one 'word' or two in such circumstances,—a single word performing a double function, or two words which happen, 'accidentally' as it were, to sound alike, but which belong to different wordclasses? The latter alternative usually offers the simpler solution, though not necessarily a wholly satisfying one.

The Southern Vietnamese words discussed in section 6 above present an interesting variation on this theme. Here we have pairs of forms with different but related phonological shapes and similar but not identical grammatical functions. We may decide to disregard the similarities and to take the view that we are in each instance dealing with two quite separate words, with different referents on the semantic plane.

A second solution would be that we are in each pair dealing with what is essentially the 'same' word, each word having two forms differentiated by tone, as are the Chin verb forms. We are then faced with the problem of stating the grammatical conditions under which these forms occur, and it at once becomes apparent that we are not here dealing with a relatively straight forward tonal alternance as in Chin. Our grammatical statement must account for the fact that in sentences (a), (b) and (c) on p. 177 which are, superficially at least, identical

in grammatical structure, (a) has the word *ông* twice with a level tone, (b) has the 'same word' twice with the rising tone, and (c) has the 'same word' once with the level tone and once with the rising tone. It seems to me that to make sense of this we must look to some wider grammatical context than the single sentence, and if we do so we shall find it possible, and indeed useful, to interpret the rising tone in all the examples cited in section 6 as the phonological exponent of a single grammatical phenomenon, to which we might attach some such general label as 'Anaphoric Reference'.

## 7.3. Tonemic substitution, expressive intonation or tonal inflexion in Bwe Karen?

The problem with the Bwe Karen examples in 5.5.1. above is to decide how one is to interpret the shift to a higher pitch, with or without increased duration, of one of the elements in certain reduplicated structures. Is this a case of 'tonemic substitution', to use Pike's term?<sup>28</sup> That is to say, are we to assume that a high tone has in many of these constructions been substituted for a mid or low tone? If so, should all these high variants be marked as high tones in the writing system and entered in the lexicon alongside words with high tone in all contexts? There are practical difficulties in such a course, which would lead to quite frequent confusion as to the identity of morphemes, and to gross overloading of the lexicon. There is the more serious objection that the shifted high syllables are often perceptibly higher in pitch than ordinary high tone syllables and may also be of longer duration, even when extra length is not an essential feature of the construction in question. This suggests treatment in terms of emphasis or emotional expression. This solution is not entirely satisfactory either, however, since the upward pitch shift and, in the majority of instances, the extra duration are not a matter of stylistic choice or emotional expression but, quite simply, of grammar. The difference between the two Bwe sentences -dɔ̃-fu-fu 'Speak louder (than you are doing at present)' and -dɔ̃-fu-fu 'Speak loudly!' is as much a matter of grammar as is the difference between the forms 'louder' and 'loudly' in the English translation. In Bwe the grammatical distinction is marked by the two patterns, high-mid and mid-high, in English by the two inflective elements, '-er' and '-ly'. A third possible solution might therefore be to treat the Bwe examples on pp. 176-177 as instances of the use in that language of tonal inflection in the reduplicated verbal phrase.

## 8. Conclusion

The cursory examination in the preceding sections has attempted to show some of the ways in which tone may be the tool of grammar in South East Asian languages. It has also afforded a glimpse of some of the problems of interpretation and presentation that beset the scholar in this field, and has indicated how the solutions found to these problems will depend in no small measure upon the theoretical standpoint of the investigator.

<sup>28</sup> See Pike, K. L., *Tone Languages*. University of Michigan Press, Ann Arbor 1948.

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